THE LIZARD GENERA *ANADIA* AND *PTYCHOGLOSSUS* IN COLOMBIA.

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Study of the available Colombian material of these genera necessitates the description of a new *Anadia*, the transference of a species described as an *Anadia* to the related genus *Ptychoglossus*, and affords a definite locality in Colombia for the type species of *Anadia*, hitherto known only from "Tropical America??".

Anadia and *Ptychoglossus* agree in having the scales in transverse rings, the ventrals continuous with, rather than separated from, the laterals and dorsals, and in having prefrontal plates. They differ in that *Anadia* has squarish, flat dorsals, while in *Ptychoglossus* they are narrow, elongate, and more or less keeled. In neither genus are the dorsals separated from the ventrals by smaller scales, as they are in *Euspondylus*, nor is there an oblique arrangement of the laterals, as there is in *Pantodactylus*. In *Anadia* the dorsals of one ring may follow those of the next or they may alternate with them (or some follow and some alternate), whereas in *Ptychoglossus* the alternation is regular.

Genus **Anadia** Gray 1845, Cat. Liz. Brit. Mus., p. 58, type ***A.*** *ocellata*.

The six Colombian species of *Anadia* seem to occupy mutually exclusive ranges. The larger, stockier, more short-headed forms (expressed in scalation by more scales in a ring, fewer rings of scales, and fewer supraoculars) are high altitude animals, while the smaller, slimmer, long-headed forms (expressed in scalation by the reverse of the above) are animals of the hot country. These lizards apparently conform to the principle of size and proportion, correlated with temperature, worked out long ago with various groups of mammals.

I have seen good series of the two forms of the eastern Andes, but the other four are known only from one or two specimens each. A

single *ocellata* is available for examination, and I have the original descriptions of *pulchella, vittata,* and *angusticeps*. The last two are figured.

In lieu of a key and of diagnoses I present a tabular list of the characters: male femoral pores, supraoculars, paired geneials in contact, number of scales in a transverse ring at midbody, number of such rings from occiput to base of tail, head-body length in millimeters of the largest specimen, color pattern.

	fem. pores	supra-oculars	cont. gen.	scales in ring	rings	h. b.	color
pamplonensis	5—8 (av. 6)	4	2	36—40	40—41	85	uniform
pulchella	6	3	2	41	43	53	barred
bogotensis	12—13	2 (3)	2	25—30	38—52	60	uniform
ocellata	12—13	4	2	29—30	47—58	54	striped
vittata	3	4	3	30	58	40	striped
angusticeps	4	4	2	32	60	48	striped

Anadia pamplonensis sp. nov.

TYPE: The specimen described by me in 1937, but not named (Proc. Biol. Soc. Washington 50, p. 11).

TYPE LOCALITY: Pamplona, Norte de Santander, 2340 m.

DESCRIPTION: The color is a rather uniform light tan, some of the specimens showing scattered dark streaks, two or three scales long. The largest specimen measures 210 mm. total length, tail 125; the smallest is 98 mm., tail 60.

REMARKS: Besides the specimen sent me by Hmno. Nicéforo María in 1937, I have seen 13 additional Pamplona specimens in the Instituto de La Salle in Bogotá. As I pointed out in 1937, the relationship with *pulchella* of the Santa Marta Mts. and with *bitaeniata* of the Venezuelan Andes is close, but the additional material bears out the differences noted at that time in a single specimen.

Anadia pulchella Ruthven 1926, Occ. Papers Mus. Zool. Univ. Michigan 177, p. 1.

TYPE: Mus. Zool. U. Michigan 63333.

TYPE LOCALITY: La Cumbre, Hacienda Vista de Nieve, Santa Marta Mts., 7000 feet (2100 m.).

DESCRIPTION: Head and body of type 53 mm.; "above light olive, with deep brown markings... on the back... in the form of narrow

transverse bands, interrupted on the median line... on the tail... two rows of spots... on the sides [the deep brown markings]... tending to be prolonged longitudinally. On the sides... numerous pale spots... in a single row on each side of tail... brown band on each side of the head and neck from... snout to the fore limb... Ventral surface pale greenish yellow with numerous small dark spots mostly arranged in two rows."

REMARK: A second specimen from the type locality, recorded by Loveridge (1929, Proc. Biol. Soc. Washington 42, p. 100) seems to have been identical in scalation with the type. The type was taken in a bromeliad.

Anadia bogotensis (Peters).

1862 *Ecpleopus (Xestosaurus) bogotensis* Peters, Abh. Berlin Ak., p. 217.

TYPE: Supposedly in the Berlin Museum.

TYPE LOCALITY: "Santa Fé de Bogotá."

RANGE: General vicinity of Bogotá, 2000 to 3200 m.

DESCRIPTION: A dull brownish, darker below. In some light specimens dark dash markings can be made out (as in *pamplonensis*). The great majority have two supraoculars, three appearing in about 1/8 of the specimens. If data taken by myself on 47 specimens is combined with that given by Burt and Burt (1931, Bull. Amer. Mus. 61, p. 311) on fifty-two specimens, and that given by Loveridge (1929, p. 100) on thirty nine specimens, 15 out of a total of 138 have three.

Loveridge first gave the variation in number of rings and number of scales in a ring, and the range given has not been exceeded.

REMARKS: Besides Bogotá and various places in the páramo east of the city, I have seen 7 from Aguadita (2000 m.). Loveridge records it from Choachí (1966 m.), and Burt and Burt record it from Gutiérrez (2350 m.), mountains near Muzo, and from La Dorada (195 m.) in the Magdalena valley. The last locality is almost certainly erroneous.

A large specimen measures 60 mm. from snout to vent; a new born one 23 mm. Specimens seen in the field were under flat stones on the ground. Two eggs found under a stone on Oct. 17 hatched on Dec. 25.

Anadia ocellata Gray, 1845, Cat. Liz. Brit. Mus. p. 58.

TYPE: Presumably in the British Museum.

TYPE LOCALITY: "Tropical America??".

RANGE: Known only from Jericó, Antioquia, at 1760 m. in the western Andes.

DESCRIPTION: A full description of the Jericó specimen in the Instituto de La Salle was given by Burt (1932, Trans. Amer. Micr. Soc., 51, p. 213). As the specimen was probably in better color in 1932 than it is in 1944, I quote his color description. "back dark greenish brown, fading to grayish posteriorly where it is mottled with both dark and light spots. A distinct white line extends backward from the superciliaries on each side and the trace of a second lateral stripe is seen as it extends from the base of the eye and tympanum to the point of insertion of the forelimb. There is no vertebral stripe. A dark band appears on each side and this contains about seven distinctive tiny white spots which have relatively large ebony rims that are in contrast to the surrounding ground color. The under surface of the head and body is dark blueish or slate-colored, but the ventral part of the tail is pinkish." The type was said to have 58 rings of scales, and 30 scales in a midbody ring. The Jericó specimen has 47 and 29. This is not impossible variation, as is indicated by the counts given above for *bogotensis* by Loveridge. The type had "sides darker, with white-eyed black spots in front". The Jericó specimen measures 154 mm., tail 100.

REMARKS: It is always interesting to note a definite locality for a species described without provenance, and especially so when it is the type of a genus. Burt records the Jericó specimen as *Euspondylus acutirostris* Peters, originally described from Venezuela, making the astounding statement that Jericó (in the western Andes) is "not far" from Venezuela. I imagine that the misidentification came about by his using the key to *Euspondylus* in Burt and Burt (*l. c.*, p. 332), where, provided that one considers the specimen a *Euspondylus,* it runs down with ease to the third species, *acutirostris*. If, however, one reads further in the same key one finds that *acutirostris* has a divided frontonasal, which is not true of the Jericó specimen, and Burt admits that the scales of the Jericó specimen are flat, while those of *acutirostris* are keeled.

Anadia vittata Boulenger 1913, Proc. Zool. Soc. London, p. 1033. pl. 107, f. 2.

TYPE: In the British Museum.

TYPE LOCALITY: Peña Lisa, Condoto, Chocó, 300 feet (100 m.).

DESCRIPTION: "two preanal and one femoral pore on each side". "Pale brownish white above, with three dark brown longitudinal stripes, the vertebral edged with black and breaking up into three black lines behind the nape; lower parts pure white; tail with three serrated or zigzag brown bands". Snout to vent, 40 mm.

Anadia angusticeps Parker 1926. Ann. Mag. Nat. Hist. (9), 17, p. 550,

TYPE: In the British Museum.

TYPE LOCALITY: Gorgona Island, in the Pacific off the coast of Cauca.

DESCRIPTION: Two preanal and two femoral pores on a side; head more acute than *vittata;* color pattern similar to that of *vittata,* but less vivid, and without the black lines on the dorsum. Snout to vent 48 mm.

REMARKS: Very closely allied to *vittata,* and as both are known only from a single specimen they may not be distinct.

Genus **Ptychoglossus** Boulenger 1890, Proc. Zool. Soc. London, 83, type *bilineatus* = *picticeps.*

The two Colombian species of *Ptychoglossus* occupy mutually exclusive territory, *nicefori* on the east slope of the Eastern Andes and *festae* from the coffee zone of the Central Andes to Darien.

They are best distinguished by color, as the scalation is almost identical. The color of *festae* is said to be "a more less distinct dorso-lateral light or yellowish line on each side; general color brownish" (Burt and Burt, l. c., p. 374). The color of *nicefori* is dark brown above, white below; a vertebral and a dorso-lateral black line, fading out on the hind half of the body.

Ptychoglossus nicefori (Loveridge).

Anadia nicefori Loveridge 1929, Proc. Biol. Soc. Washington 42, p. 99.

TYPE: Mus. Comp. Zool. 27340.

TYPE LOCALITY: Rio Garagoa at Macanal. This locality is in Boyacá, at an elevation of 1638 meters on the east slope of the Eastern Andes.

RANGE: I have seen 6 specimens from the following localities: Macanal, Garagoa (1730 m.), Guaicaramo, Villavicencio (498 m.), two, Buenavista (1230 m.).

DESCRIPTION: The type was a small male (head-body length 32 mm.) with three femoral pores. The Buenavista specimen, which I took under a log, is likewise a male but has a head-body length of 46 mm., and shows 3 preanal and 12 femoral pores on a side. The ventrals are in six or eight longitudinal rows, and 19 cross rows. There are 32 rings of scales on the body, 31 scales in a ring; four supraoculars. The type showed no markings above, but most of the others show three dark streaks or lines anteriorly.

REMARKS: I consider this a valid species. When put into *Ptychoglossus* it runs to *festae* in the key given to that genus by Burt (*l. c.*, p. 373), and is, in my opinion, very closely related to *festae*, the only scalation difference being that *festae* has 8-10 longitudinal rows of ventrals while *nicefori* has 6-8 rows. Burt (1932, l. c., p. 214) recorded a Garagoa specimen in the Instituto de La Salle as *Pantodactylus tyleri* Burt and Burt (from Mt. Duida, Venezuela, 7100 feet = 2443 m.). I do not understand this, as, taking the *Pantodactylus* key of Burt and Burt (1931, l. c., p. 358), the present form runs not to *tyleri* but to *buckleyi festae* of Ecuador, as it has four supraoculars (*tyleri* three), third pair of chinshields in contact (separated in *tyleri*), and the description of *tyleri* (l. c., p. 363) gives many other differences. Nor does the full description of *buckleyi festae* (l. c., p. 359) suggest the present form in the slightest.

Ptychoglossus festae (Peracca).

Diastemalepis festae Peracca, 1896, Boll. Mus. Zool. Univ. Torino, 11, 235, p. 1.

TYPE: Presumably in Turin, Italy.

RANGE: Darien to Antioquia (Angelópolis, 1955 m.; Medellín 1538 m.).

DESCRIPTION: Ten femoral pores; ventrals in eight or ten longitudinal and seventeen or nineteen cross rows; 31-33 rings of scales on body; 32-34 scales in a ring; three or four supraoculars.

REMARKS: I have seen no specimens of this species. Burt and Burt (l. c., p. 373) record the two Colombian specimens.